Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1) (Currently Amended) Method for regenerating a particle filter built into an exhaust line of an internal combustion engine, with the exhaust gases passing through the filter from an inflow face to an outflow face, ~~characterized in that~~ comprising the steps of, during filter regeneration:

[[-]] monitoring the internal temperature of at least two regions within the filter between the inflow face and outflow face ~~is monitored~~;

[[-]] reducing the oxygen level of the exhaust gases ~~is reduced~~ when at least one of the temperatures monitored is greater than a critical temperature; and

[[- ]] ~~the~~ continuing to provide an increased oxygen level of the exhaust gases ~~is increased~~ to continue filter regeneration when all the temperatures monitored are less than the critical temperature.

2) (Previously Presented) Regeneration method according to Claim 1, characterized in that the internal temperature of one region of the filter is monitored near its inflow face.

3) (Previously Presented) Regeneration method according to Claim 1, characterized in that the internal temperature of one region of the filter is monitored near its outflow face.

4) (Previously Presented) Regeneration method according to claim 1, characterized in that the internal temperature of a middle region of the filter is monitored.

5) (Previously Presented) Regeneration method according to claim 1, wherein desulfation of a NOx trap is performed, characterized in that the internal temperature of at least two regions of the filter is monitored after desulfation of the NOx trap.

6) (Original) Regeneration method according to Claim 1, characterized in that the oxygen level of the exhaust gases is reduced by operating the engine in rich mode.

7) (Original) Regeneration method according to Claim 1, characterized in that the oxygen level of the exhaust gases is increased by operating the engine in lean mode.

8) (Previously Presented) A regeneration device for regenerating a particle filter built into an exhaust line of an internal combustion engine, said filter having an exhaust gas inflow face and outflow face, characterized by including at least two temperature sensors located inside the filter between the inflow face and outflow face, and a control unit for controlling an oxygen level of exhaust gases passing through the filter during regeneration in response to temperatures measured by the at least two temperature sensors.

9) (Currently Amended) Regeneration device according to Claim ~~8~~15, characterized in that one of said at least two temperature sensors is placed in the vicinity of the inflow face of the filter.

10) (Currently Amended) Regeneration device according to Claim ~~8~~ 15, characterized in that one of said at least two temperature sensors is placed in the vicinity of the outflow face of the filter.

11) (Currently Amended) Regeneration device according to claim ~~8~~ 15, characterized in that one of said at lest two temperature sensors is placed in a middle region of the filter.

12) (Currently Amended) Regeneration device according to claim ~~8~~ 15, characterized in that the particle filter includes catalytic phases for treating pollutants contained in the exhaust gases.

13) (Previously Presented) Regeneration device according to Claim 9, characterized in that one of said at least two temperature sensors is placed in the vicinity of the outflow face of the filter.

14) (Previously Presented) Regeneration device according to claim 13, characterized in that one of said at lest two temperature sensors is placed in a middle region of the filter.

15) (Currently Amended) ~~Regeneration~~ A regeneration device ~~according to claim 8, characterized in that~~ for regenerating a particle filter built into on exhaust line of an internal combustion engine, comprising a filter having an exhaust gas inflow face and outflow face, at least two temperature sensors located inside the filter between the inflow face and outflow face, and a control unit for controlling an oxygen level of exhaust gases passing through the filter during regeneration in response to temperatures measured by the at least two temperature sensors, wherein the control unit controls the oxygen level of exhaust gases passing through the filter during regeneration by reducing the oxygen level when at least one of the at least two temperature sensors measures a temperature greater than a critical temperature, and by ~~increasing the~~ continuing to provide an increased oxygen level when all of the temperatures monitored by the at least two temperatures sensors are less than the critical temperature.

16) (Currently Amended) Regeneration device according to claim ~~8~~15, wherein the at least two temperature sensors are spaced axially from one another.

17) (Previously Presented) Regeneration method according to Claim 2, characterized in that the internal temperature of one region of the filter is monitored near its outflow face.

18) (Previously Presented) Regeneration method according to claim 17, characterized in that the internal temperature of a middle region of filter is monitored.

19) (Previously Presented) Regeneration method according to claim 1, wherein the at lest two regions are spaced axially from one another.

20. (New) Regeneration method according to claim 1, further comprising operating a control unit to receive the internal temperatures of the at least two regions within the filter and to command the internal combustion engine to operate in rich mode to reduce the oxygen level of the exhaust gases when at least one of the temperatures monitored is greater than a critical temperature and to command the internal combustion engine to operate in lean combustion mode to provide an increased oxygen level of the exhaust gases when all the temperatures monitored are less than the critical temperature.